Scientific Inquiry

8-1 The student will demonstrate an understanding of technological design and scientific inquiry, including process skills, mathematical thinking, controlled investigative design and analysis, and problem solving.

8-1.7 Use appropriate safety procedures when conducting investigations.
Taxonomy Level: 3.2-B Apply Factual Knowledge

Previous/Future knowledge: In all grades students use appropriate safety procedures when conducting investigations that are appropriate to their grade, tools, and type of investigations.

It is essential for students to know that care should be taken when conducting a science investigation to make sure that everyone stays safe.

Safety procedures to use when conducting simple science investigations must be
- Always wear appropriate safety equipment such as goggles or an apron when conducting an investigation.
- Be careful with sharp objects and glass. Only the teacher should clean up broken glass.
- Do not put anything in the mouth unless instructed by the teacher.
- Follow all directions for completing the science investigation.
- Keep the workplace neat. Clean up when the investigation is completed.
- Practice all of the safety procedures associated with the activities or investigations conducted.
- Tell the teacher about accidents or spills right away.
- Wash hands after each activity.

It is essential for students to use tools including convex lenses, plane mirrors, color filters, prisms, and slinky springs safely and accurately, when conducting investigations.

NOTE TO TEACHER (safety while working with students):
- Teacher materials have lists of "Safety Procedures" appropriate for the suggested activities. Students should be able to describe and practice all of the safety procedures associated with the activities they conduct.
- Most simple investigations will not have any risks, as long as proper safety procedures are followed. Proper planning will help identify any potential risks and therefore eliminate any chance for student injury or harm.
- Teachers should review with students the safety procedures before doing an activity.
- Lab safety rules may be posted in the classroom and/or laboratory where students can view them. Students should be expected to follow these rules.
- A lab safety contract is recommended to notify parents/guardians that classroom science investigations will be hands-on and proper safety procedures will be expected. These contracts should be signed by the student and the parents or guardians and kept on file to protect the student, teacher, school, and school district.
- In the event of a laboratory safety violation or accident, documentation in the form of a written report should be generated. The report should be dated, kept on file, include a signed witness statement (if possible) and be submitted to an administrator.
- Materials Safety Data Sheets (MSDS) must be on file for hazardous chemicals.
- For further training in safety guidelines, you can obtain the SC Lab Safety CD or see the Lab Safety flip-chart (CD with training or flip-chart available from the SC Department of Education).

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It is not essential for students to go beyond safety procedures appropriate to the kinds of investigations that are conducted in an eighth grade classroom.

Assessment Guidelines:
The objective of this indicator is to *use* appropriate safety procedures when conducting investigations**;** therefore, the primary focus of assessment should be to apply correct procedures that would be needed to conduct a science investigation. However, appropriate assessments should also require students to *identify* safety procedures that are needed while conducting an investigation; or *recognize* when safety procedures are being used.